Biosolids in FORESTRY

King County
Department of
Natural Resources and Parks
Wastewater Treatment Division
Resource Recovery

Biosolids make an excellent soil amendment and source of nutrients for trees. Research on the use of biosolids for forest fertilization began at University of Washington's Pack Forest in 1973. Biosolids were first used on an operational scale in 1987 for fertilizing plantations on the Snoqualmie Tree Farm in east King County. The Greenway Biosolids Forestry agreement expanded the program in 1995 to include state forests in the county. King County has long been a national leader in sustainable forest growth through biosolids recycling.

Mountains to Sound Greenway

The Mountains to Sound Greenway Biosolids Forestry program is a public-private partnership using biosolids to fertilize and preserve working forests in eastern King County.

The program includes a major private forestland owner, Hancock, and the state Department of Natural Resources.

Washington State Department of Natural Resources (DNR)

State forests in King County, primarily Marckworth Forest near Duvall, have been receiving biosolids since 1995. As a part of the 50-year Mountains to Sound Biosolids Forestry agreement, King County also transferred some of its forestland holdings to DNR to be managed as a working forest trust.

Hancock Forest Management

Hancock's Snoqualmie Forest has been fertilized with the county's biosolids since 1987. Every year, about 1,000 acres that meet certain environmental criteria are applied with biosolids. These areas are reapplied on a 4-year cycle to keep the trees supplied with nitrogen and other essential nutrients.

REDUCING OUR CARBON FOOTPRINT WITH BIOSOLIDS

Forest application generates the best carbon storage values of all the county's biosolids recycling projects.

Active forest management, including the use of biosolids for fertilization, enhances a forest's carbon sequestration capacity by promoting vigorous growth. Trees are unique in their ability to lock up large amounts of carbon in their wood, and continue to add carbon as they grow. Considering that one half of the weight of dried wood is carbon, forests can store significant amounts.

When the carbon stored in the wood is added to the enormous amount of carbon stored in forest soils, it becomes obvious that forests are major carbon storage reservoirs.

University researchers estimate that the tons of carbon stored in forest soils after biosolids application is 70 times greater than the carbon dioxide and other gases released by trucking and application equipment.

Habitat

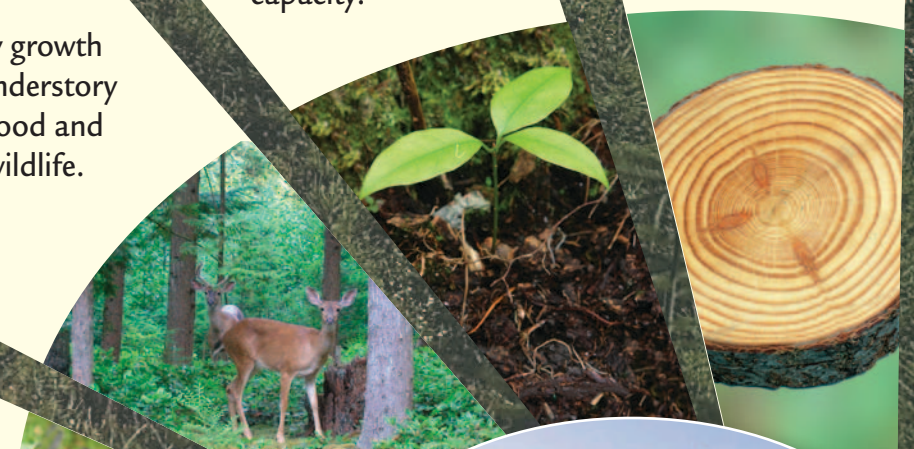
Lush, healthy growth in the forest understory provides more food and hiding cover for wildlife.

Soil Structure

Organic matter in biosolids improves soil structure, and increases the soils water holding capacity.

Trees and Understory

Nutrients provided by biosolids act as a fertilizer, stimulating healthy plant growth.



Biota

Soil organisms benefit from nutrients in biosolids and the healthy soils it creates.

Biosolids...creating another resource from wastewater

For more information:
206-684-1247
http: kingcounty.gov/biosolids/

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